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ABSTRACT

This publication, one of a series examining the issue of faculty workload and productivity, argues that the key to institutional change in higher education is the role of college faculty and offers recommendations for improving and measuring college faculty productivity. The paper begins with a conceptual model for discussing faculty productivity, both past and future, followed by a brief historical outline of the history of faculty productivity in American higher education. Examined are today's pressures on higher education and faculty productivity, as well as productivity comparisons in other occupations. The paper concludes with an eight-point agenda for reshaping faculty productivity. The recommendations cover (1) increasing the proportion of annual personal rewards while preserving academic freedom and tenure; (2) the development of clear productivity standards and accountability; (3) the retention of flexibility for faculty to set their own agenda; (4) the offering of incentives and rewards that reinforce institutional or departmental objectives; (5) integrated responsibility for managing both revenues and costs; empowerment of those assisting in executing the agenda; (6) the requirement to manage revenues, values, and outcomes of productivity, not just the costs or budget allocations; (7) empowerment of higher education's "customers"; and (8) the need to "manage" to institutional objectives and value creation, not to the regulation of faculty behavior. (Contains six references.) (GLR)

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AN AGENDA FOR RESHAPING FACULTY PRODUCTIVITY

State Policy and College Learning

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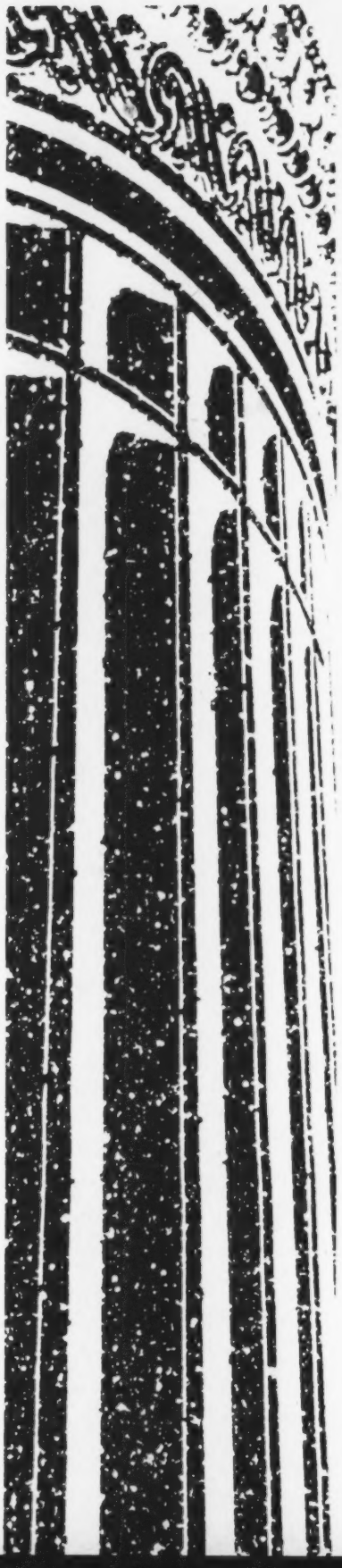

AN AGENDA FOR RESHAPING FACULTY PRODUCTIVITY

STATE POLICY AND COLLEGE LEARNING

Richard B. Heydinger
Hasan Simsek

November 1992

SHEEO A joint publication of the State Higher Education Executive Officers and the Education Commission of the States, with support from the Pew Charitable Trusts.

State Higher Education Executive Officers

The **State Policy and College Learning** (SPCL) project was initiated by the Education Commission of the States, with primary funding provided by a grant from The Pew Charitable Trusts. The project was undertaken because of a strong concern that there are serious disincentives in higher education which diminish faculty commitment to teaching, particularly with regard to the impact of state policy on institutions. To counter these trends, it will require nothing short of a fundamental transformation of institutional, system and state policies regarding finance, governance and management. To that end, the project seeks to foster a new vision of the kinds of state policies that will support a resurgence of attention to creativity and innovation in college teaching.

The authors wish to acknowledge the many conversations and valuable contributions provided by Peter Hutchinson of the Public Strategies Group, Inc. and by Jim Mingle of the State Higher Education Executive Officers. Their ideas and insights are reflected throughout this paper.

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This publication is part of a series examining the issue of faculty workload and productivity. Other publications in the series include: *Faculty Workload: State and System Perspectives* by Alene Bycer Russell; and *A Case Study of Faculty Workload Issues in Arizona: Implications for State Higher Education Policy* by Stephen M. Jordan and Daniel T. Layzell. The first publication listed is $7.50 plus $2.50 postage and handling ($10 total); the second is $5.50 plus $2.50 postage and handling ($8 total); both can be purchased from SHEEO or ECS. The three publications are available as a package for $16.10 plus $3.90 postage and handling ($20 total).

The Education Commission of the States is a nonprofit, nationwide interstate compact formed in 1965. The primary purpose of the commission is to help governors, state legislators, state education officials and others develop policies to improve the quality of education at all levels. Forty-nine states, the District of Columbia, American Samoa, Puerto Rico and the Virgin Islands are members.

The State Higher Education Executive Officers is a nonprofit, nationwide association of the chief executive officers serving statewide coordinating boards and governing boards of postsecondary education. Forty-nine states, the District of Columbia and Puerto Rico are members.

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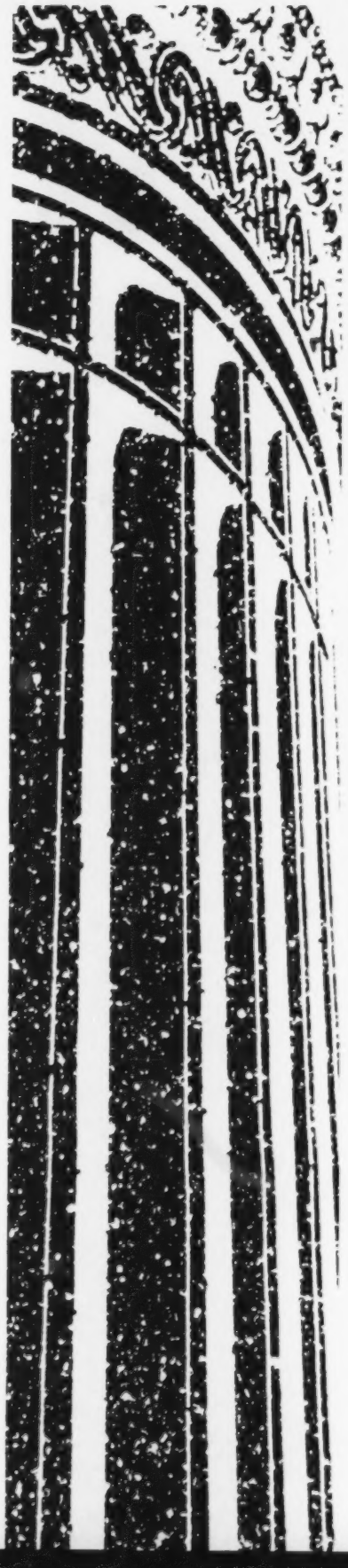


DATELINE: SIWASH, SPRING, 1999

April 10th at Siwash always marks the beginning of the "annual review and responsibility agreements" cycle, an intense sixty-day period looking back at the current year's accomplishments, and negotiating performance contracts with each faculty member for next year.

Erin Broadwater, a European historian, was in her third year as chair of the Siwash history department. Broadwater prepared for the annual review by outlining the presentation she would make to the dean and provost.

First, she would emphasize the progress on the curriculum reform project. After dismal progress last year, the dean and the provost had decided that 25% of all history faculty and staff salaries would be tied to demonstrable progress on this project. Progress for the second year would be assessed with a beginning- and end-of-the-year visit by a small group of external evaluators. Broadwater had just received the year-end progress report, and it was glowing in its praise.

Second, she would highlight the department's success at reducing instructional costs by 8%. This had been an institutional priority for all academic departments.

Finally she would focus on the annual report of the Quality Improvement Audit (QIA) team. These QIA teams, originally known as "the committees from hell," had been put into place seven years ago. They had come about because of the protracted negotiation in which the legislature agreed not to specify teaching loads for Siwash if, in turn, the institution demonstrated real commitment to responding to the needs of students and employers. The alumni and other supporters of Siwash had shown surprising enthusiasm for serving on QIAs, for it gave them a direct voice in the quality of education provided by the institution.

Although initially skeptical, Broadwater had come to see that the QIA gave her a lever with history department faculty. Often this annual report would suggest changes that Broadwater had already recognized but had found difficult to raise with her colleagues.
Four years ago the criticisms in the QIA report had led to a discussion on the need to reform the history curriculum. This year the audit committee was lavish in its praise. Nevertheless, the audit did voice mild concern over the difficulty Siwash history majors were having in the job market and had suggested that the college and department consider increased attention to this issue.

At the weekly meeting of the dean's council in early May, Broadwater received allocations from the vice president of finance, specifying the amount of money available for this year's bonuses. The allocation was divided between institutional achievement and departmental achievement. It was good news for the history department. The provost and dean had awarded 23 of the 25% set aside for progress on the curriculum restructuring project. Broadwater was quietly satisfied, for she knew this allocation would permit the department executive committee to reward those faculty and staff who had worked so hard on the curriculum project.

Finalizing responsibility agreements included reviewing the incentive schedule and negotiating "responsibility agreements" with each faculty member. This approach, instituted seven years ago, had been the most significant change in decades for faculty at Siwash.

The annual process of developing responsibility agreements begins with intense discussions among the dean and all department heads on needs, initiatives, and progress of the college. The specific incentives in place are always reviewed in light of the college's agenda and summary information from the QIA reports. For the last three years the agenda has emphasized the improvement of service courses and increasing collaborative arrangements with regional businesses. Thus, both release time incentives and space improvement funds were available to those units which demonstrated progress on either of these objectives. Under consideration for next year were increased incentives to expand research efforts and to reemphasize the internship program.

From Broadwater's perspective she favored more emphasis on internships. It would speak directly to the concern voiced by this year's history audit. Moreover, it could be used to reinforce the active learning ideas the department was implementing in the curriculum reform project.

This year's incentive schedule included:

$9,800 for an introductory course
$6,100 for a graduate or advanced undergraduate course
$5,000 for a "unit" of departmental research
$5,000 for a "unit" of departmental service
$3,200 for courses in the Mind Bender series

Under consideration was increasing the stipend for research from $5000 to $5800 and creating a new item exclusively for internship work, also at $5800. As a result, the amount for introductory courses would be scaled back and the Mind Bender continuing education series would be lowered still further.

Distribution of the final incentive schedule was always a much-anticipated day. After discussing the schedule with colleagues, faculty would begin developing their own responsibility agreement proposals for submission to Broadwater.

The order for responding to these proposals was based on three criteria, developed by the history department faculty: (1) longevity in the department; (2) effectiveness at a particular responsibility as measured by various assessment mechanisms; and (3)

judgment by the chair on the mix of activities and skills needed by the history department.

Broadwater scheduled conferences with each faculty member to finalize the responsibility agreements. Before signing off on any agreements, she shared all of them with the departmental executive committee for its advice and comment.

As Professor Broadwater pedaled home on June 10th, she felt tired but satisfied. The department had graduated 83 majors, one of the senior projects had received a national award from the broadcasting industry, and two others might be published by the Minnesota Historical Society. Twelve majors had received job offers as a result of contact with organizations through their senior projects.

Broadwater felt as if she was hitting her stride as a department chair. She had aggressively inserted herself into the curriculum redesign project, and it was paying off. Because of the large bonuses received for progress on the curriculum revision, salary increases for history faculty were good, even though it had been a tough budget year for Siwash. Departmental scholarship had increased noticeably as Broadwater had been willing to make some tough judgments and award scholarship units only to the most effective researchers. Thank heavens the annual review and responsibility agreement cycle was over for another year.

INTRODUCTION

With the election of Bill Clinton and his track record of action on educational issues, a brighter day seems to have dawned for this nation's schools, colleges and universities. Clinton has called for education to expand its role in job training and retooling human capital for the 21st century. He seems to recognize implicitly the vital role which colleges and universities can play in people's lives and thus in lifting our nation. To many of us, the storm clouds of anxiety may be parting.

However, election returns which go in our favor do not address the fundamental, structural challenges which face our higher education institutions. A massive knowledge explosion, rapid advances in technology, and changing enrollment patterns coupled with severely constrained financial resources present higher education institutions with an agenda of monumental proportions.[1]

Under these circumstances, "colleges and universities are under increasing pressure to reduce costs, maintain quality, and get the most they can from their available resources — in other words, to be more 'productive'."[2] The brighter dawn of the new day may only be temporary as the winds of change continue to blow strong and the thunderheads of customer concern continue to develop on the horizon. The polls which we need to be heeding are not the presidential election returns but those of Lou Harris, who at last year's American Association for Higher Education meeting said that the confidence in higher education had slipped 59% since 1966.[3]

This paper examines one issue in the panoply of challenges facing higher education: the productivity of faculty. This issue goes to the heart of the concerns expressed by the critics of higher education. We believe the productivity of today's faculty is inappropriately maligned, but more importantly, the key to instituting change in higher education begins with faculty and the roles they play.

Some argue that the concept of productivity as commonly defined in the business world cannot and should not apply to higher education. "The concept of productivity, which was developed in business and industrial organizations, never has been accepted as a core value in higher education and is foreign to the faculty who do not do 'work' of the campus."[4] Others respond that "productivity is a proper criterion to judge not only the cost effectiveness of the institution taken as whole but also programs and *persons* within the institution." [emphasis added][5]

This paper begins with a simple conceptual model which can be used as a framework for discussing faculty productivity, both in the past and the future. We then provide a thumbnail sketch of the history of faculty productivity in American higher education. We examine today's pressures on higher education and faculty productivity. To offer readers some guidance in responding to these pressures, we examine productivity analogs in other occupations. The paper concludes with an eight-point agenda for reshaping faculty productivity.

A MODEL FOR ANALYZING FACULTY PRODUCTIVITY

"It's easy to say that institutions are not productive, *but compared to what?*" [emphasis added].[6] The term "productivity" (whether applied to institutions, staff, or faculty) carries a subjective meaning which must be placed in an historical context; its definition is both time- and institution-specific. Productivity is defined by a complex array of factors internal and external to higher education. The values, culture, status and structure of American universities have changed over time. These changes differentiate the definition of faculty role and therefore faculty productivity.

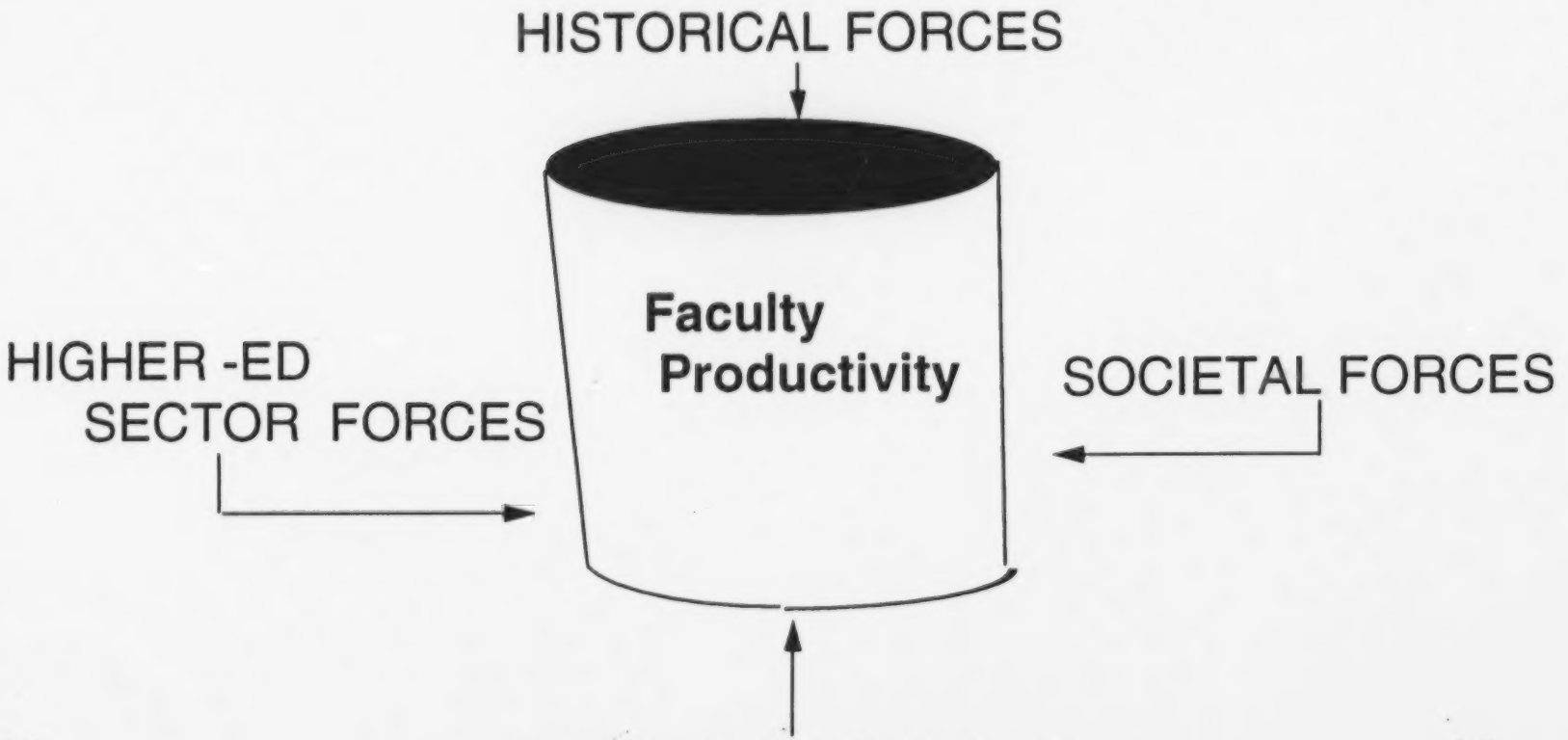
We posit that faculty productivity is influenced by four forces: (1) historical; (2) societal; (3) the "industry" of higher education; and (4) the specific institution under discussion.

These forces come together to interact and determine the context in which faculty productivity is judged. (See Figure 1 on the next page.)

The historical forces are the mental model or the paradigm which faculty members carry around in their heads about the role they play. These mental models "are deeply ingrained assumptions, generalizations, or even pictures or images that influence *how we understand the world and how we take action*. Very often, we are not consciously aware of our mental models or the effects they have on our behavior." [emphasis added][7]

Societal forces are those broad shifts and trends continually at work in society. Because these forces move subtly and slowly, they often are invisible. They range from diversification of the population to the growing impact of the information age, from dual career families to the individualization of mass markets. Although some pundits may think that the "ivory tower" is impervious to changes in society, history clearly shows that nearly all substantial change in higher education can be traced to societal changes or external interventions.

FORCES INFLUENCING PRODUCTIVITY



The forces of the higher education industry are those models of institutional success which stand at the top of the higher education pecking order. It has been well documented that higher education is heavily influenced by the actions and policies of its peers.[5]

Institution-specific forces are the "local" conditions or the specific socio-political-economic environment of the particular institution. Although these forces always play an important role in setting the context for faculty productivity, in the next few decades these local factors could play an even stronger role as institutions are faced with extreme pressures to make changes.

There also is a tendency within higher education to ignore these forces or even attempt to design strategies to counteract them. Organizations, increasingly even nations, cannot stop these trends and developments. Effective higher education reform strategies must utilize these forces like the inevitable flow of the tides.

In the next section we briefly trace the evolution of faculty productivity since Colonial America. This discussion is intended to provide greater understanding of the factors shaping faculty productivity in today's milieu.

THE CHANGING PARADIGM OF FACULTY ROLES

An examination of the history of higher education in the United States shows that since Colonial America there have been three distinct role models for faculty and thus distinct measures of productivity: the clergy model, the professional model and the research model. These models evolved sequentially and were heavily influenced by the changes and needs of our society.[9]

The Clergy Model

The clergy model dominated the definition of the faculty role from the founding years of American higher education to the latter part of the 19th century. As Lovett describes:

> An academic career meant a long-term [usually a lifetime] commitment to teaching, to a middle-class life style, and to the social and cultural milieu of small towns where most colleges happened to be located.
>
> A minimum of personal wealth and social standing were necessary to the pursuit of an academic career, not only because it required an earned college degree, but also because the social networks of the traditional college towns brought the professors in close touch with other pillars of the community, businessmen, doctors, lawyers.[10]

College presidents, usually trained as clergy, believed that their primary objective was to turn students into good Christians through the shared life of frequent prayers, intensive study and tight supervision. Faculty were not trained as teachers, but were ministers and other virtuous men.[11] "In most cases, everyone taught almost everything, usually at a fairly elementary level."

Moreover:

> Tenure seldom existed, and faculty seem to have felt obliged to move on whenever they got into difficulty with their college or its public, rather than staying to fight. The vision of a college professor as an independent expert with a mission transcending the college where he happened to teach was almost unknown. [12]

With religious colleges as the only model and clergy as the paradigm:

> The emphasis was quite clearly on teaching. Even as late as 1857, a committee of the Columbia College Board of Trustees attributed the poor quality of the college to the fact that three professors 'wrote books'."[13]

Productivity was tied directly to institutional purposes and focused exclusively on socializing young people with Christian values. However, as society sought new knowledge to aid in the development of the nation, the clergy model with its exclusive focus on teaching was not sufficient.

As society demanded more from higher education, the faculty role changed from the clergy model to a professional model. However, as with most paradigm shifts, the transition to this new model did not come about smoothly.

The Professional Model

A number of conditions came together at the end of the 1800s to lead to development of the professional paradigm for faculty. First, the locally-focused, religiously-based clergy model was not in keeping with an emerging industrial nation. Riots were not unusual as students rebelled against religious discipline and corporal punishment.[14] Strains in the clergy model were further exacerbated as "new-type faculty members rebelled against patrolling the unruly dormitories, praying with the repentant, or punishing the miscreants."[15]

Second, the scientific method began to flourish. Darwin's publication of The Origin of the Species in 1859 reinforced the importance of new approaches to scholarship.[16] Young people interested in serious scholarship went to Germany for their studies and brought back to the United States an interest in the model of the German research university, creating further anomalies in the clergy model.

Third, these developments were taking place amid "an astonishing commercial and industrial expansion" built on the coattails of the industrial revolution.[17] Higher education in the United States shifted its focus from one of exclusive concern with educating young people to one which gave precedence to directly assisting with real world problems. Higher education models in the form of Cornell, Wisconsin, and Minnesota were established as land-grant institutions, specifically aimed at both educating young people and directly aiding economic development.

The conditions and expectations for faculty were changing. Faculty became more mobile. Emphasis was placed on practical, hands-on experience. The formation of the

American Association of University Professors in 1914 gave a clear signal that the professionalization of faculty was taking place.

Yet research as we know it today was not an integral part of this model, certainly not in the early part of the 20th century. Consider the following, now somewhat amusing statement describing the attitude of the University of Minnesota Board of Regents in 1910:

> . . . the regents generally regarded research as a private fad of a professor, like collecting etchings or playing the piano, and they rarely interfered with it so long as (the professor) did not ask for money.[18]

If there was any doubt about the emergence of this new faculty paradigm, the next 30 years leading up to World War II reinforced its development. The need for professional talent in society and the specialization of academic disciplines gave further momentum to the increasing professionalization of faculty, which resulted in the establishment of many professional schools. "In the 1930s, [the professional model] set in motion a vast movement leading to the creation of semiautonomous professional schools within the larger universities. In time, these schools became almost independent of the central leadership of the university. Their curricula were set by professional accrediting agencies and the working conditions of their faculties were powerfully influenced, if not determined, by the national labor market."[19]

Thus, teaching, once a sacred calling, was enriched by the addition of two modern faculty functions — service and applied research — in such a way that "the faculty's role was energized by determined efforts to apply knowledge to practical problems."[20] Productivity measures, although perhaps only implicitly, began to broaden from simply teaching to include responding to societal problems through service and applied research.

The Research Model

Just like the clergy model seven decades earlier, the professional model began to feel its strains and decay as the historical forces were unable to cope with the series of questions and needs raised by changing societal forces. The transformation from the professional model to the research model was sparked by the social, political, and economic shocks created by World War II and its aftermath. American involvement in the war created an urgent need for highly-trained scientific talent and knowledge production. Academics quickly responded, and they produced spectacular results. The Office of Scientific Research and Development contracted with universities (as well as industry), rather than set up its own research

facilities. After the truce, these wartime arrangements were modified and institutionalized, as federal funds gave a tremendous boost to university research activities.[21]

At this time a critical policy decision was made which continues to have substantial impact on today's faculty productivity. After much debate, the federal government opted to award federal research grants to individual faculty members (i.e., principal investigators) rather than to institutions. This approach pleased private institutions, for their faculty could compete for grants while circumventing possible legal challenges questioning the use of public dollars to assist private institutions.

From the perspective of faculty productivity, this policy decision had enormous implications. Research awards given to faculty created a most powerful incentive to focus attention on research and away from the other objectives of institutions.[22] "By 1955, research was an acknowledged 'preoccupation of higher education'."[23] World War II and its aftermath had shifted the perspective of faculty from local economic development and institutional objectives to global problems and fundamental research. The productivity model had shifted to a research paradigm.

However, this story is incomplete without considering another important force, which occurred simultaneously. Due to the GI Bill, higher education enrollment increased dramatically following World War II. Whereas undergraduates received significant first-hand attention from faculty prior to World War II, the burgeoning size of the student body now necessitated other arrangements.

During this period, growth and its accompanying financial largess permitted an emphasis on instruction to co-exist with the emerging research model. With funds relatively plentiful, institutions did not have to make a choice. They could add on research activities while expanding instructional capacity rather than choose between them. Moreover, most college students were first generation and did not know what to expect from college. A college degree, regardless of its quality, was a guarantee of a job and security. Thus, there was little questioning of faculty and their instructional effectiveness or productivity. During this period the incentives for faculty and academic departments were repeatedly strengthened to reinforce the importance of research. After all, it was through this avenue that faculty received prestige, additional equipment and new facilities.

Placing the Three Models of Faculty Productivity in Perspective

This brief history demonstrates three points and sets the stage for a discussion of the current challenges facing the research paradigm:

- The current tensions and debate surrounding faculty productivity have come about for specific, explainable reasons. Awareness of these factors and the conditions leading up to them will help develop effective policy changes.

- Faculty and institutions have responded to the incentives put before them. As institutions and their incentive structures have changed, so have faculty behaviors. Teaching predominated during the clergy period. Activities to serve the needs of the society and the professions dominated the first half of the twentieth century. To change the productivity paradigm in the next decade, we must change the incentives.

- Faculty should not be seen as evil or uncaring about productivity or purposely working against the wants of society. Faculty are only responding to the forces which impinge upon them and the incentives placed before them.

CHANGE IN THE CURRENT RESEARCH PARADIGM IS IMMINENT

Just as the clergy model came under fire in the mid-1800s and the professional model changed following World War II, the research model is beginning to show visible signs of strain and decay. Using the four forces of the faculty productivity model, this section examines the current "condition" of the research model. It concludes with one, irrefutable conclusion: *change in the research paradigm is imminent.*[24]

Within the current research paradigm, the historical forces which have always acted as a conserving force against change are now experiencing several serious anomalies. First, there is a growing perception that the quality of teaching has declined. Whether the decline is real or only perceived is moot; the feeling exists that it has slipped. Second, the "publish or perish" syndrome emanating from the research model has resulted in a growing proportion of low quality and "often inconsequential material, rather than the protracted pursuit necessary for a major intellectual contribution" in almost all disciplines.[25] Third, the primacy of the disciplinary affiliation has seriously weakened the faculty's attachment to their institutions.[26] This has come about because of the importance of peer judgments in the awarding of research contracts and the dominance of research measures to determine institutional advancement. Fourth, across-the-board application of research model norms has been ill-suited to many institutions of higher education. Their faculty do not have the background nor does the institution have the infrastructure to support sophisticated scholarly work. Furthermore, the needs of a poorly-prepared student body necessitates attention to teaching. As a result, institutional effectiveness and efficiency have been jeopardized. Fifth, the broad emphasis on research productivity has created an unsatisfying climate for many professors who are good teachers, but who have less interest in research. Thus, the reward and compensation structure dominated by the research model has penalized a significant

number of faculty that many stakeholders of higher education would judge as productive. The evidence of serious anomalies in these historical forces is one of the first indications of impending change.

The higher education sector is also showing signs of change. For example, the most respected scholars and institutions are questioning the dominance of the research paradigm. Ernest Boyer of the Carnegie Foundation for the Advancement of Teaching has called for "a more inclusive view of what it means to be a scholar — a recognition that knowledge is acquired through research, through synthesis, through practice, and through teaching."[27] Boyer proposes that we differentiate our measures of productivity by expanding our definition of scholarship to include: the scholarship of discovery (research), the scholarship of integration (multi-disciplinary work), the scholarship of application (service), and the scholarship of teaching. Similarly, Stanford education professor Henry Levin proposes that colleges and universities develop "creative contracts" by which faculty define their professional goals for a three-to-five-year period, possibly shifting from one principal scholarly focus to another. [28] Others suggest the need for differentiating between roles as an approach for breaking the dominance of the research paradigm. Many research institutions (e.g., Michigan, Syracuse) have placed improved teaching at the top of their institutional agenda.

Factors underlying the institutional force continue to change with increasing momentum. There is every reason to believe that funding will be tighter during the next two decades than at any period since the Depression. Unfortunately, higher education is not at the top of most states' funding agendas, nor will it likely move up in the immediate future. When looking back from the year 2000, an increasing number of people are predicting that 1990-92 will be viewed historically as the "golden years" of the '90s. In an article for the *Journal of Higher Education*, Kim Cameron and M. Tschirhart point toward the entire decade of the '90s as "the post-industrial environment" for colleges and universities which will be characterized by turbulence, competitiveness, lean resources, unpredictability, and periodic decline.[29]

As the financial strain continues to grow, legislators and other stakeholders will increasingly demand evidence that their sizable investments are being used as effectively and efficiently as possible. A number of state legislatures have already requested faculty productivity reports. As institutions experience these strains, administrators are more willing to raise the specter of the previously unspoken topic of faculty productivity. Faced with only unpalatable trade-offs, some institutions will find it necessary to break from the ranks and

develop alternative reward and compensation mechanisms that will increase productivity, either by increasing "output" or lowering costs.

When these changes within higher education are placed in the context of the societal forces, the case for change becomes irrefutable. As Toffler describes it, we are in one of the rarest moments in the history of humankind. It is much deeper and more powerful than the industrial revolution. It is a "powershift" triggered by the information revolution.[10] Business as usual, as we perceive it, is undergoing a massive transformation from top to bottom. Given higher education's permeable boundaries it is impossible to cogently argue that we will be immune from these changes.

In particular, "provider-driven" organizations are under the most serious siege.[11] Health care, legal work and education are all being questioned by their "customers." No longer will the patient, client, or student sit idly by while the providers define what is needed for them.

Quality is becoming the coin of the realm in all products and services. With each passing day the customer is getting more adamant. In previous eras the public was less informed about the nature of higher education. Consider the Minnesota farmer who in 1958 said to his niece, the first family member to attend college, "We don't know what you're studying at that university, but we sure are proud of you!" In the past, postsecondary education guaranteed a job, it guaranteed status, and it was somewhat shrouded in mystery. Such is no longer the case.

Today the entertainment industry, like it or not, does as much "educating" of our students as any degree program. A steady diet of engaging, fast-paced information has given students as well as parents implicit criteria for judging the presentation of material. Many industries are delivering significantly more value without commensurate price increases (i.e., electronics, package delivery, fast food). Other industries are increasing their prices but are also delivering more value (i.e., restaurants, specialty tours). All of this is being done with a pace and quality that reflects the changing lifestyles around the globe. People are becoming accustomed to high-quality, quick-response service in which their needs are met.

Add to this the telecommunications-computing revolution. Although this "revolution" has been discussed for over three decades, it is still in its infancy. The suburb and shopping center did not occur until a half-century after the basic automobile technology was developed. It takes only casual observation to note how the telecommunications-computing momentum grows each month.

When this set of societal factors is combined with the institutional forces at work, there is little doubt that these two forces will come together to propel significant change in higher education. How we can shape this change to ensure that the result is in the best interests of a vibrant, effective high education sector? Left to the vagaries of legislative politics and *laissez faire* societal forces, the outcome could easily be disastrous for higher education.

A CURSORY EXAMINATION OF OTHER PROFESSIONS AND OCCUPATIONS

To broaden our outlook on these fundamental questions of faculty productivity, it is instructive to examine the norms and practices of other occupations. Throughout history higher education and American industry have transported practices back and forth. "Although American industry and American colleges began their colonial history with widely divergent systems, movement over the decades has brought a surprising convergence. . . . today, the corporate world is more like the university, and in fact infringes upon the academic world in various forms of education and research."[32]

Corporate innovations such as sabbaticals for retooling, flexible working hours, and greater job autonomy have existed in the academy since the birth of the modern university. Comprehensive benefit packages and recent initiatives such as on-site daycare and substance abuse counseling had their origins in the corporate work place.

There is much to learn from the ways in which other professions view "productivity."[33] Our analysis here is only cursory and is conveyed to stimulate the reader's thinking about alternative approaches to the productivity challenges facing higher education.

The three classic professions of doctor, lawyer, and minister each offers a useful perspective. For most medical doctors, their "productivity" is reflected directly in their income levels. If they have not provided effective care, they either do not have repeat patients or, in the worst case, they are found guilty of malpractice. There is a direct correlation between their productivity and their pecuniary rewards. Like the faculty profession, these providers are the sole judges of effective practice, an important point to which we shall return below.

Private practice attorneys, like doctors, measure their productivity in terms of personal income. In contingent fee cases, winning is the difference often between no income and significant compensation. Although law firms may designate some proportion of

individual income to be shared among the firm's attorneys, the bulk of an individual's salary is determined by their personal "productivity."

Observation: Linking productivity measures directly to a large portion of income is a powerful incentive.

A second aspect of these professions, which is noteworthy as it relates to higher education and cost management, is that there has been virtually no management of costs in either the legal or medical professions. Until recently, both professions passed on their costs to the client or patient. Today, medical costs are now closely examined by those paying the bills: the federal government and private insurance companies. Fee scales have become commonplace in medicine. In the legal profession the oversupply of attorneys has provided a market mechanism to slow the increase of legal fees. These recent developments in these two classic professions should send a message to higher education.

Observation: Those who pay the bills will ultimately find ways to intercede to hold down costs.

The third traditional profession, the ministry, offers a number of useful insights for higher education. Given the historical roots of the professoriate in the clergy, it is not surprising that there are many parallels. A minister's productivity is not directly reflected in income level. Instead, typically, parishioners review the minister's performance and set salary. This approach is much more akin to higher education with one major difference: it is the customer, not the providers, who measure productivity and determine compensation. If a minister is not performing up to the standards of the congregation, in most denominations the parishioners can move to have the minister dismissed.

Observation: Empowering the customer to have a direct impact on productivity judgments is a powerful tool.

The old-fashioned encyclopedia salesman who worked exclusively on commission had a single productivity measure: number of units sold. Like doctors and attorneys, income level was tied directly to productivity. To the employer there was no significant risk. The salesman had a great deal of autonomy, but the company had little control over the sales techniques employed or the values conveyed by the sales force. The company relinquished this control because they had established a single productivity measure: number of units sold.

Companies which want to control sales techniques or convey a certain set of values have two options: they must either pay a base salary or work with the coercive threat of removing the person from the sales force. Thus some firms augment commissions with a base salary, which "ties" the person to the organization.

Observation: Some portion of straight salary is required for organizational affiliation.

In addition to linking individual incomes directly to individual performances, a number of progressive companies now link a significant portion of annual compensation to overall organizational performance. This is intended to develop a collaborative environment in which people work together to select the most effective course for improving organizational output.

Observation: Directly linking individual reward to organizational performance reinforces the overall institutional goals.

Performing artists and professional athletes offer another set of ideas. Perhaps no other professionals are held so accountable, for they perform their work in public. In sports the "bottom line" is clear, and the standards are not open to individual interpretation. In the performing arts, there is greater latitude for the audience to judge the effectiveness of performance. Yet in both cases it is the providers (coaches, league officials, the directors, museum curators) who create the context for the judgment.

Observation: The industry can set the standards and the context for judgment while still empowering those served.

Finally, let us examine two other occupations: police officers and commercial airline pilots. For reasons that conceptually are similar to the problems facing higher education, there is growing debate surrounding the effectiveness of the police force. This is due in large measure to the lack of consistent expectations. To the police federation, the effectiveness of policing is measured by the crime rate. Police see their bosses as City Hall. Yet to the citizen (i.e., the ultimate customer), effectiveness is measured not by crime statistics but by the sense of security felt. People want to feel safe, regardless of the crime rate. Customers become increasingly impatient because police work is not linked more directly to the needs of the community. To address the problem, beat cops are being assigned permanently to a single neighborhood. They become regular members of the community, with their familiar faces becoming a "presence." In turn this provides greater awareness into the community's issues and a greater sense of security. Productivity goals have been clarified and performance is tied more directly to them.[34]

Observation: Productivity problems are often rooted in a confusion about the ultimate objective and a lack of clarity about the ultimate customer.

Airline pilots hold the lives of hundreds of people in their hands each time they fly. Their productivity is on the line like no one else's. The industry has very strict standards for acceptable behavior before, during and after flights. Licensing and keeping skills up to date are essential, and exams are frequent.

Yet within this rigidity, work assignments are individualized: pilots bid on the flights they wish to have. Priority for individual bids is determined by seniority, with an implicit assumption that everyone is equally productive. Pay is determined by three factors: seniority, the aircraft flown (i.e., greater compensation for 747s than 727s), and the seat occupied in the cockpit (i.e., pilots earn more than flight engineers).

Observation: There can be significant individual flexibilities built into work assignments while adhering to very strict industry standards of productivity.

These observations provide an enriched perspective on the current productivity debate in higher education. In the remainder of this paper we build on these observations to outline an agenda for shaping the next faculty productivity paradigm.

AN AGENDA FOR RESHAPING FACULTY PRODUCTIVITY

Critics of higher education raise a shrill voice, calling attention to shortcomings in faculty productivity, without recognizing the strengths of the current model. Typically overlooked is the fact that the United States' higher education system is one of the strongest, most productive in the world. Our evolving history of faculty roles brings with it certain characteristics, many of them positive. We must build on the forces at work in our society for, as earlier paradigms of faculty productivity have shown, these forces are so powerful that they eventually will prevail.

Most importantly, there is no single model, no "silver bullet," which is a panacea for the emerging conditions or the many concerns expressed by current critics. We have created an agenda for change, not a single model. We hope that institutions will tailor this agenda to their own specific circumstances.

1. *Recognize the long term importance of academic freedom by protecting tenure, but dramatically increase the proportion of annual personal rewards which must be earned each year.*

Outspoken critics cite tenure as the root of most productivity problems. There is no flexibility to remove unproductive people. As the argument goes, tenure is unnecessary in a litigious society which protects whimsical dismissal and political harassment. However, both history and contemporary events demonstrate the importance of safeguarding the freedom of inquiry.

There is also an important aspect of current tenure practices which creates insurmountable obstacles for productivity and needed institutional flexibility: the guarantee of an annual base income in perpetuity equal to a professor's most recent — typically highest — salary. Guaranteeing last year's salary does not promote continued productivity; instead it discounts individual ambition and permits an "I don't give a damn" attitude whenever convenient, particularly when coupled to a lifetime tenure contract. We must uncouple the need to

protect academic freedom from the stultifying impact which current practices have on institutional budgets.

The guaranteed salary which accompanies tenure should be set at a threshold level, not the most recent salary. The base salary could be pegged at the salary of newly hired assistant professors. Since we ask our new scholars to live on this amount, it certainly is enough of a stipend to pursue a modicum of one's work.

The remainder of the annual salary would be earned by achieving specific accomplishments for the year. Like the salesperson who is on commission or has a quota, faculty accomplishments could be rewarded based on agreed-upon objectives. Like professional sports, bonuses could be given for realizing high levels of attainment (i.e., effective teaching measures, publishing in certain journals, being named to the National Academy).

2. *Develop clear expectations for individual productivity and hold faculty accountable for meeting these expectations.*

Even though productivity measures are difficult to develop for the panoply of activities and mental work which results in scholarship, we cannot argue that the profession is too complex or that productivity measures will thwart the effectiveness of faculty. Administrators and faculty must step to the fore and develop comprehensive productivity measures which respond to the criticisms expressed by legislators and other stakeholders. If concerns are ignored, measures will be superimposed on higher education which do not reflect the essential attributes of the academy. Moreover, the development of productivity measures is an excellent opportunity to focus discussion on fundamental questions about institutional mission and who is ultimately served.

In his insightful and comprehensive work on departmental productivity, William Massy calls attention to the lack of current productivity data.[35] He recommends developing a scorecard, sharing the results, and then making sure that productivity becomes one of the primary items on an institution's agenda. As difficult as this may seem to those who have spent a lifetime in higher education, it warrants a look at the variety of other professions where this practice is commonplace. As resources get ever tighter, administrators must be willing to focus on faculty workload, which represents over 60% of the budget in most institutions.

3. *Retain the current flexibility for individual faculty members to set their own professional agenda.*

A strength of American higher eduction is the flexibility of individual freedom. History has shown that many important breakthroughs occurred while a scholar was pursuing a line of inquiry that most others deemed irrelevant, hopeless or misguided. Academic freedom has proven to be a powerful tool in pushing back the frontiers of knowledge.

To maintain individual choice while influencing institutional productivity, faculty members, like airline pilots, could bid for or propose the types of activities they will undertake in an upcoming school year. For example, a faculty member might propose a heavier teaching load one semester. His position in the proposal queue could be determined by measures of teaching effectiveness and perhaps seniority. A second faculty member might opt to concentrate on research, proposing that a majority of her time be spent on research activities.

4. *Offer individual incentives and rewards that strongly reinforce **institutional** or **departmental** objectives, thereby strengthening mission differentiation.*

Specific institutional objectives should be reflected in the compensation and reward systems for faculty. For example, if graduating students is an important benchmark for the college, this should be tied to compensation of faculty. Alternatively, if revising the department's curriculum is a top priority for the entire department, tie a significant portion of annual compensation for all departmental personnel to satisfactory progress in the redesign effort. Today there are too few linkages between institutional objectives and individual compensation.

To achieve overall institutional objectives, the department head and other administrators must manage the incentives associated with each institutional outcome, making one more attractive than another. For example, if survey courses are a priority, higher levels of reward could be assigned to them.

Far too many institutions utilize research productivity as a significant measure. Although it may be easier to define, we must rid ouselves of the notion that research is the only readily acceptable sign of institutional quality. Upward drift in missions is a characteristic which works against the best long-term interests of higher education. Administrators, faculty leaders and board members must be courageous and call for the development of measures which reflect the unique aspects of specific institutional mission.

5. *Integrate into the organization the responsibility for managing **both** revenues and costs.*

Even in higher education, a primary productivity measure is balancing revenues with costs. There are not enough direct linkages between the "costs given" to academic departments (i.e., the resources allocated in the annual budget) and the revenues produced (e.g., tuition, research contracts). Department heads are implicitly taught to manage costs, not revenues, outcomes, or even value produced.

There is little incentive to develop highly "productive" activities. In fact, in most institutions there is an implicit incentive to enroll a smaller number of students. For example, after the faculty complement has been assigned to a department for the year, the incentives all point in the direction of making classes as small as possible. As long as the department does not cross the perceptual threshold that it is "in decline," there is no reward for being more productive in any single year (e.g., teach more students, conduct more departmental research). If marginal "profit" were computed and departments could bank the "excess," there would be a strong incentive to explore ways to decrease costs or raise additional revenue. All of this must be done within the carefully developed context of assuring quality. There are few if any incentives for departments to even explore these options.

6. *Recognize that the set of rewards available to the institution go far beyond the usual focus on financial compensation.*

Key to a successful implementation of this reform agenda is a recognition that administrators already have available to them a wide variety of institutional mechanisms which serve as rewards and incentives. Often salary and staff benefits are seen as the only incentives available. Although salary is a strong motivator, faculty members prize other rewards as much. Release time, space, travel, support, or equipment can all be used as effective incentives, particularly if administrators view these items as institutional assets rather than individual prerogatives. Administrators at all levels must begin to view these incentives as essential management tools in steering the academic ship of state.

7. *Empower those we serve so that they can directly assist in executing this agenda.*

An important ally in implementing this reform agenda is the customer. In instruction, higher education serves parents, students, employers, and society at large by providing educated citizens, prepared for life. In research, we serve business, industry, and humanity by pushing back the boundaries of knowledge. These various customers are in an excellent position to judge the effectiveness of our services. We must use our customers to help us assess our effectiveness, and we must act on the results of these assessments.

Many institutions and departments have advisory committees. A slight reshaping of the membership and goals of these committees could yield an important qualitative impact on productivity. Ensure that committee membership has most major customers represented. Change the name of the committee to "quality improvement audit team" to reflect the group's purposes. Share the results of the audit and even consider giving these customers a direct voice in resource allocation decisions or priority setting. It is important to consider that the customer has been making judgments for years in churches and public utility commissions. Not only do we empower those we serve but we can focus institutional productivity without superimposing our own, provider-oriented judgments on our institutional colleagues. Implementing productivity changes becomes much less divisive.

8. *Administrators must "manage to" institutional objectives and value creation rather than promulgating rules to control faculty behavior.*

Successful implementation of this agenda requires a different outlook for administrators and academic leaders. In higher education we manage costs. Our budgeting, accounting and even a large portion of our institutional research systems focus on cost measures. "When you manage to costs, not surprisingly you get more costs!" [36]

We also try to "legislate" certain behaviors (e.g., more teaching) when the incentive structure is pointing strongly in other directions. More rules and regulations will only result in a new set of creative behaviors to circumvent the new rules.

Institutional leaders must change their orientation and see their role as managing value creation and delivering it to those served. Most certainly, this change is perceptual as much as behavioral, yet a perceptual change can be a powerful tool. Consider the difference when the chair of the history department is focused on delivering maximum quality instruction for a reasonable price, in contrast to an orientation of holding down costs to finish within a budget. This is not to say that costs are unimportant. To the contrary, the department head's performance will be judged in part on whether costs and revenues are in balance. However, a focus on value creation and the expansion of quality precipitates a much different discussion with the faculty than determining ways to pare down costs. Obvious strategies such as collaboration with other departments or the utilization of technology are much more likely to be viewed as viable or perhaps even necessary approaches.

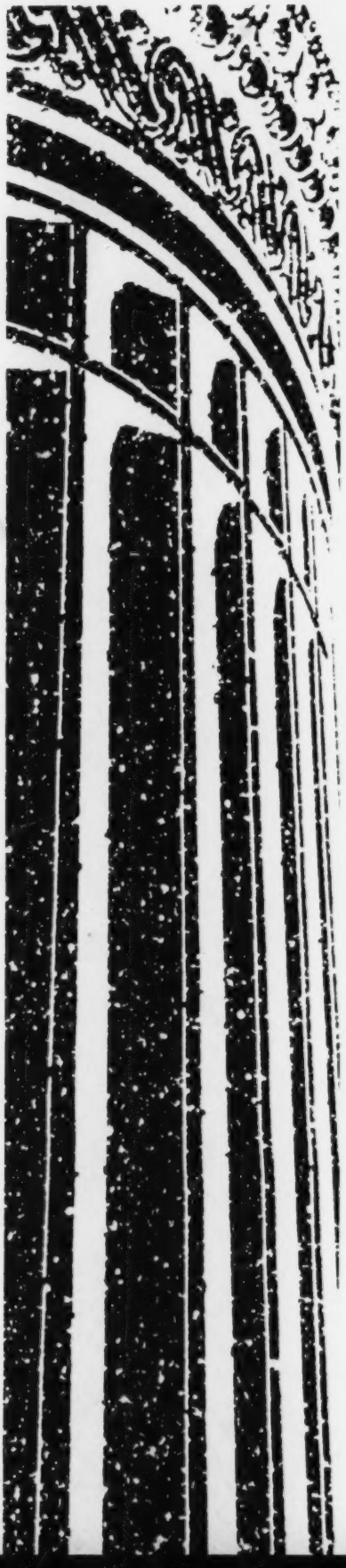
Administrators ranging from academic department chairs to trustees must align the organization's individual incentives with institutional objectives. Once the broad parameters are set and the appropriate incentives are in place, the particular strategies for realizing these objectives are the choice of the academic departments. In our quest for increased productivity

we should not promulgate more rules or legislate behavior. It would be ironic if higher education put more constraints on its work force while other industries are beginning to see the inherent strength of empowering employees to make their own choices.

A Final Word

We recognize that no single agenda can apply to the rich tapestry of American higher education, nor should it. To some readers, particularly policy makers and academic leaders, this agenda might look like a sure road to professional suicide. Yet we feel strongly that the topic of faculty productivity is not only worthy of a great deal more discussion than it has received, but that increasingly the public — our investors — will be demanding it from us.

We hope these thoughts provoke discussion on your campuses and in your states. It is not hyperbole to say that the future of higher education hangs in the balance.



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22. Although legally speaking, research awards are made to institutions, in essence, faculty are the recipients of the grants. For example, when faculty leave one institution for another they typically take their grants with them, often times including equipment.

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24. The purposeful choice of the word "imminent" must be placed in an historical context; although the contemporary forces for change are escalating, the actual evolution to a new paradigm can take many years.

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33. As readers will note, we have taken some liberties with the definition of productivity, often times including incentives and rewards while not always imputing the costs involved. This will be most unsettling to economists but we think the discussion still serves the purpose of broadening the range of alternatives under consideration in higher education.

34. Thanks to Peter Hutchinson of the Public Strategies Group, Inc. for his insights about policing.

35. Readers are strongly urged to read William F. Massy's paper, "A Strategy for Productivity Improvement in College and University Departments," presented at the Forum for Postsecondary Governance, Santa Fe, New Mexico, 1989.

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